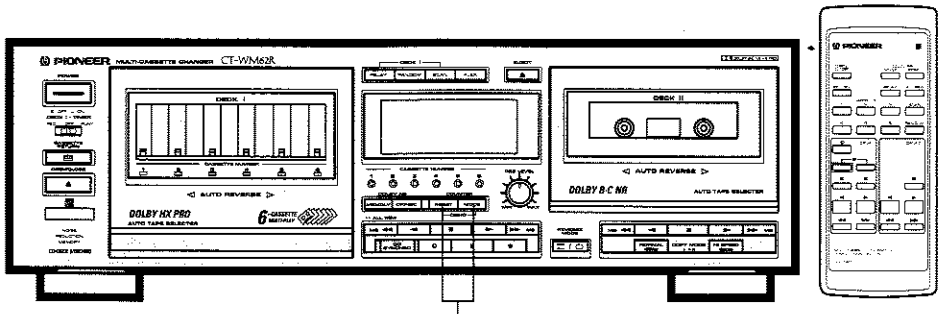
Operating Instructions

MULTI-CASSETTE CHANGER

CT-WM62R



• Demonstration Display Mode

With DECK I and DECK II both stopped, press the COUNTER MODE button and the COUNTER RESET button. The display section will demonstrate the various functions of which the unit is capable. To stop the demonstration, press any of the operating buttons on the unit.

Thank you for buying this PIONEER product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT NOTICE
[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

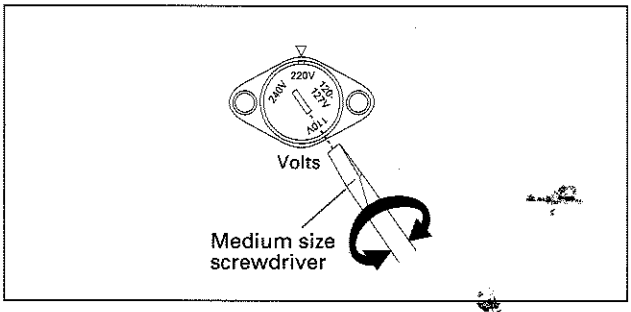
[For U.S. and Canadian models]

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD. RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

[Pour le modèle canadien avec la fiche polarisée]

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSERESS A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

LINE VOLTAGE SELECTOR SWITCH



Only multi-voltage models are provided with this switch. U.S. and Canadian models are not provided with this switch. Mains voltages in Saudi Arabia are 127V and 220V only. Never use this model with 110V setting in Saudi Arabia.

The line voltage selector switch is on the rear panel. Before your model is shipped from the factory, this switch is set to the power requirements of the destination. Check that it is set properly before plugging the power cord into the AC outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switch as follows.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selector, and adjust so that the tip of the arrow points to the voltage value of your area.

PIONEER®
The Art of Entertainment

IMPORTANT

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The safety and operating instructions should be retained for future reference.

HEED WARNING — All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

WATER AND MOISTURE — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION — The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING — The appliance should not be mounted to a wall or ceiling.

VENTILATION — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

POLARIZATION — If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

CLEANING — The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES — An outdoor antenna should be located away from power lines.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE — The appliance should be serviced by a Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged.
- Objects have fallen, or liquid has been spilled into the appliance.
- The appliance has been exposed to rain.
- The appliance does not appear to operate normally or exhibits a marked change in performance.
- The appliance has been dropped or the enclosure damaged.

SERVICING — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.
In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

CART — An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

NEC — NATIONAL ELECTRIC CODE

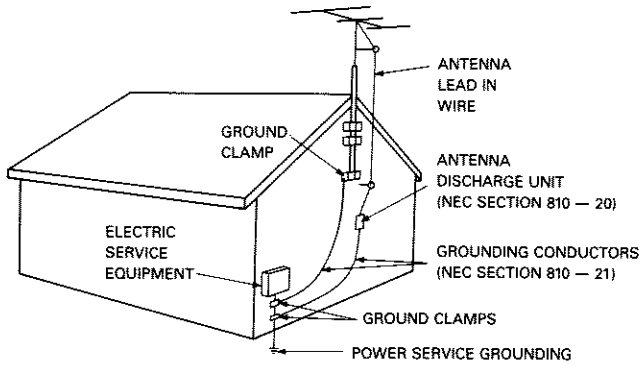


FIG. A

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

Information to User

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion—and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decibel Level	Example
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.

THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE

90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane
180	Rocket launching pad

Information courtesy of the Deafness Research Foundation.

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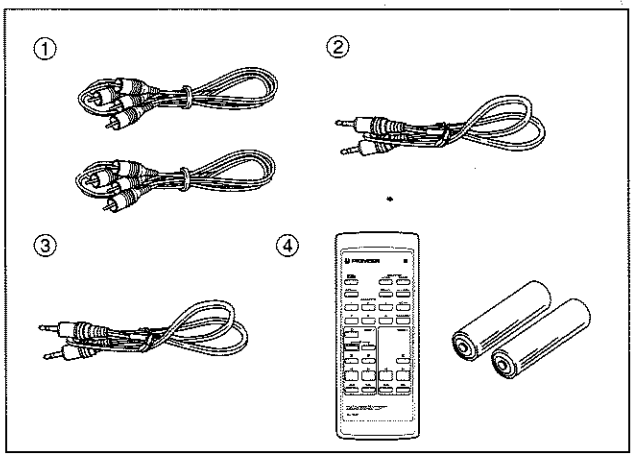
POWER-CORD CAUTION

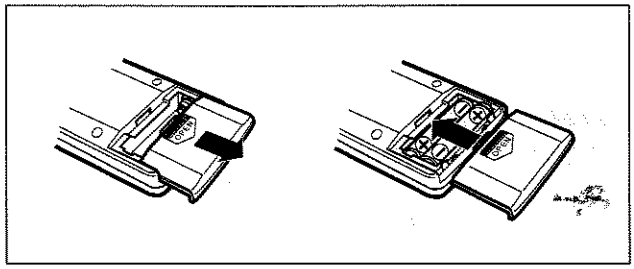
Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed in such a way they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord regularly. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

PACKING LIST



① Connection cord with pin plugs (2)
② CD-DECK SYNCHRO control cord (1)
③ System remote control cord (1)
(U.S. and Canadian models only)
④ Remote control unit (1) and Dry cell batteries (2)
(AAA, [IEC R03 (UM-4)]) (U.S. and Canadian models only)
⑤ Cassette labels (1)

Put batteries into the remote control unit (U.S. and Canadian models only)



Open the battery compartment cover on the back of the remote control unit.
Insert size "AAA" [IEC R03 (UM-4)] dry cell batteries into the battery compartment in accordance with the indications (⊕, ⊖) inside the compartment.
Close the cover of the battery case.

Incorrect use of batteries may cause leakage or rupture.
Always be sure to follow these guidelines:

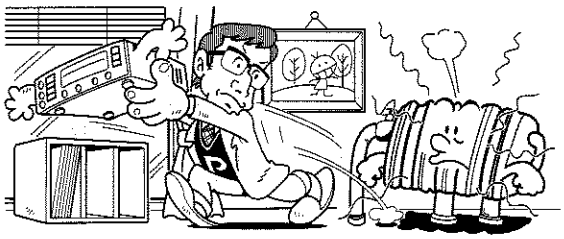
A. Always insert batteries into the battery compartment correctly matching the positive + and negative – polarities, as shown by the display inside the compartment.
B. Never mix new and used batteries.
C. Batteries of the same size may have different voltages, de-pending on brand. Do not mix different brands of batteries.
D. Batteries will last about 6 months with normal use. Always remove the batteries if you do not intend to use the remote control unit for an extended period of time.
E. In the event of leakage, wipe the inside of the case thoroughly before loading new batteries.

INSTALLATION

LOCATION

When installing the cassette deck, avoid locations with high temperatures or humidity, and make sure that the location is well ventilated.

- Do not install the cassette deck in locations subject to direct sunlight, or near a space heater or other heating device, as this may cause damage to the finish or the internal parts.
- Malfunctions may also result if the cassette deck is installed in an excessively humid or dusty location. Do not install the cassette deck next to kitchen counters or other locations subject to oily smoke or humidity.



INSTALLATION PRECAUTIONS

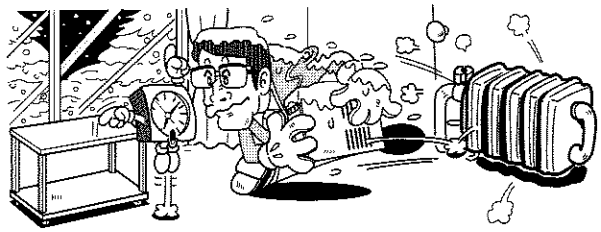
- If the cassette deck is placed directly on top of an amplifier, it may pick up humming or other noises. Also, if the amplifier generates a large amount of heat, the cassette deck may malfunction.
- Place the cassette deck on a flat, level surface.
- If the cassette deck is located near a television set, it may pick up interference noise, which will be recorded as a whistling sound on the tape. If this happens, move the cassette deck further away from the television set or turn the television set off when operating the cassette deck.

NOTE:

When installing the cassette deck, do not place a cloth over the top or block the ventilation openings in any way.

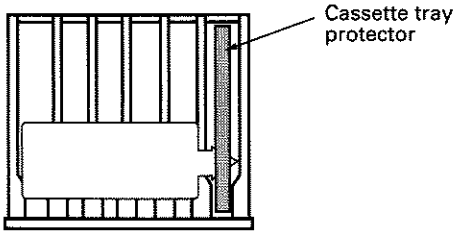
CONDENSATION

When the cassette deck is moved from a cold location to a warm location, or when the temperature of the room changes suddenly, condensation may form on the mechanical parts and affect the performance of the tape. If this occurs, wait for about one hour to allow the cassette deck to adjust to the room temperature.

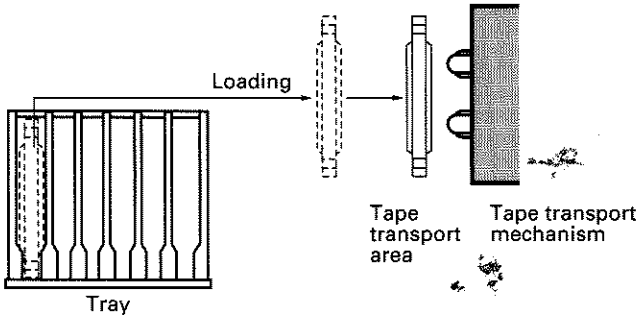


BEFORE USING THE CASSETTE DECK

The cassette tray protector protects the cassette deck from shocks and damage during transportation. Remove it before using the cassette deck, and keep it in a safe place. When transporting the cassette deck, remove all tapes from the cassette tray, and replace the cassette tray protector in slot 6, as shown below.



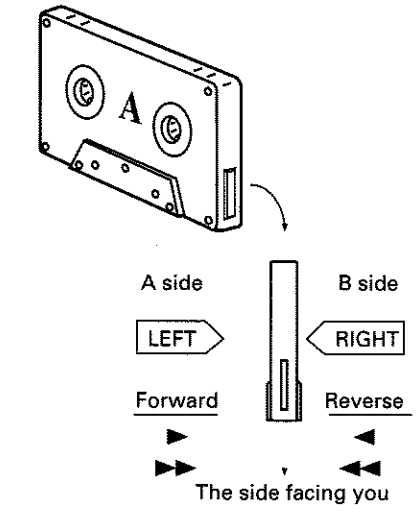
Loading: Loading refers to the physical movement of the tape from one of the six tray slots to the tape transport area, as shown in the diagram below.

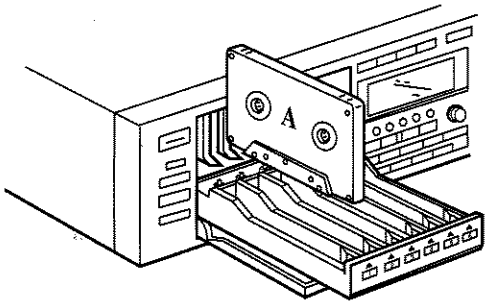


AUTO REVERSE MECHANISM

This cassette deck uses the same rotary recording/playback head for both the forward and reverse directions. When the tape reaches the end, the auto reverse function reverses the tape transport direction. The sound will be interrupted while the auto reverse function is operating, and while the leader tape section is passing the heads in each direction.

NOTE:
Please keep the diagram below in mind while operating the cassette deck. This will help you to avoid misoperations.





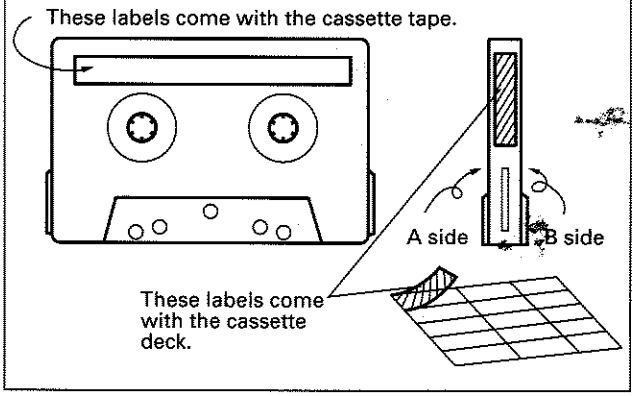
HANDLING CASSETTE TAPES

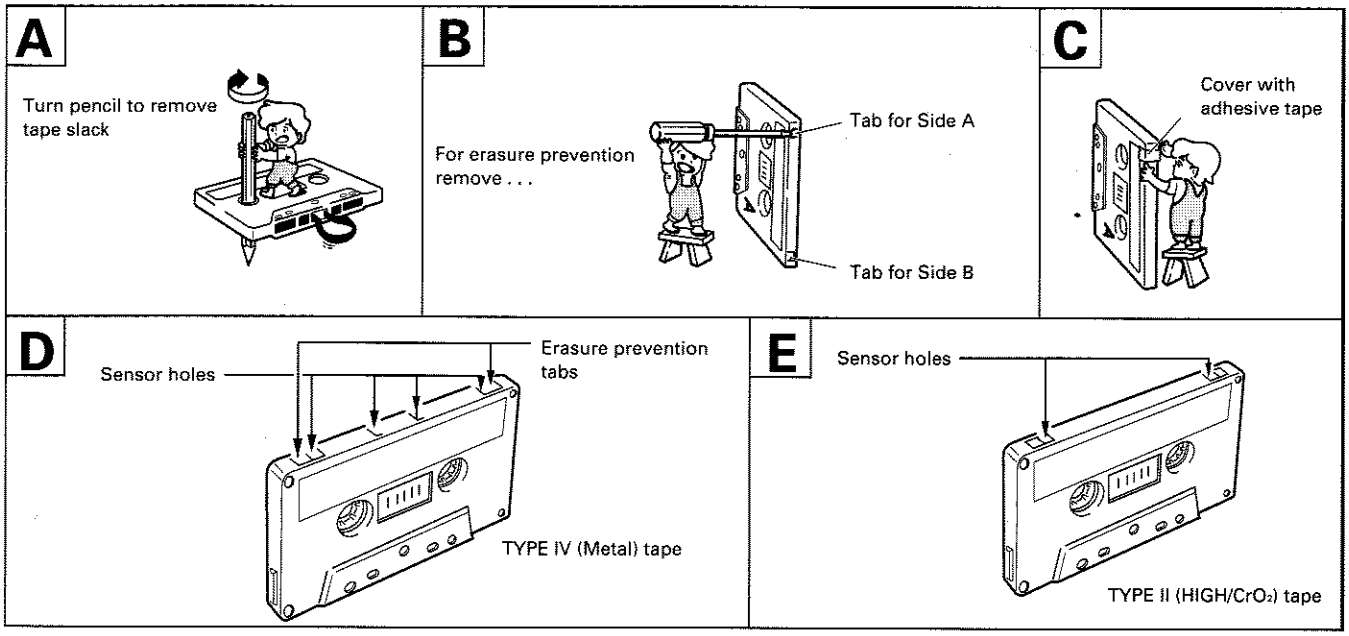
TIPS ON CASSETTE TAPES

- Leader tape (which cannot be recorded on) is provided at the beginning of a cassette tape. Let the tape run for about 5 seconds before starting to record, to allow the leader tape to clear the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case after use so that dust and dirt do not adhere to the tape, and so the tape will not get slack. Store tapes in a location free from magnetism, dust, dirt, oil, heat and humidity.
- **Because C-120 tapes are very thin, they can easily jam in the pinch rollers and capstan, and they often are subject to other problems such as irregular winding. It is best not to use them with this deck.**
- If cassette tapes are irregularly wound, the tape may get jammed in the rollers. This can cause damage to both the tape and the deck. If you are not certain whether the tape is wound evenly, fast forward or rewind the tape from beginning to end, to make sure that the tape is properly wound.

This cassette deck contains a precision loading mechanism to load tapes from the cassette tray. Observe the following precautions to avoid damaging this mechanism:

- Do not use old cassettes with loose labels or cassettes with overlapping labels.
- Attach cassette labels carefully and securely.
- If the label is peeling off, remove it completely, and replace it with a new label.





CHECK CASSETTE BEFORE USE

Check the following items betore loading a cassette tape:

Is the tape loose, or is some of the tape outside the cassette?

If some of the tape is loose or projecting outside the cassette shell, the tape may not properly enter between the capstan and pinch roller. This will prevent the tape from being supplied properly, and may even damage the tape itself. In such cases, insert a pencil into the reel hole and take up the slack (Fig. A).
Some cassette tapes come with a plastic or thick paper stopper to prevent the tape from becoming slack. Remove this stopper when loading the cassette and replace it after using the cassette.

Are the accidental erasure prevention tabs intact?

These tabs allow you to prevent important recordings from being erased accidentally. When the tab on the cassette shell is broken off (Fig. B), it is not possible to activate the recording function, so valuable recordings will not be erased by mistake.
To re-record on a cassette whose tab has been broken off, simply stick a piece of doubled adhesive tape over the hole (Fig. C).
When using TYPE IV (Metal) or TYPE II (HIGH/CrO_2) tapes, be careful not to block the sensor holes with the tape (Fig. D, Fig. E). If the holes are blocked, the automatic tape selector mechanism will not operate correctly.

NOTES:

- *The accidental erasure prevention tab for each side is the one located on the top left when the side that you want to protect is facing you.*
- *When breaking off the tab, do not use a magnetized screwdriver.*

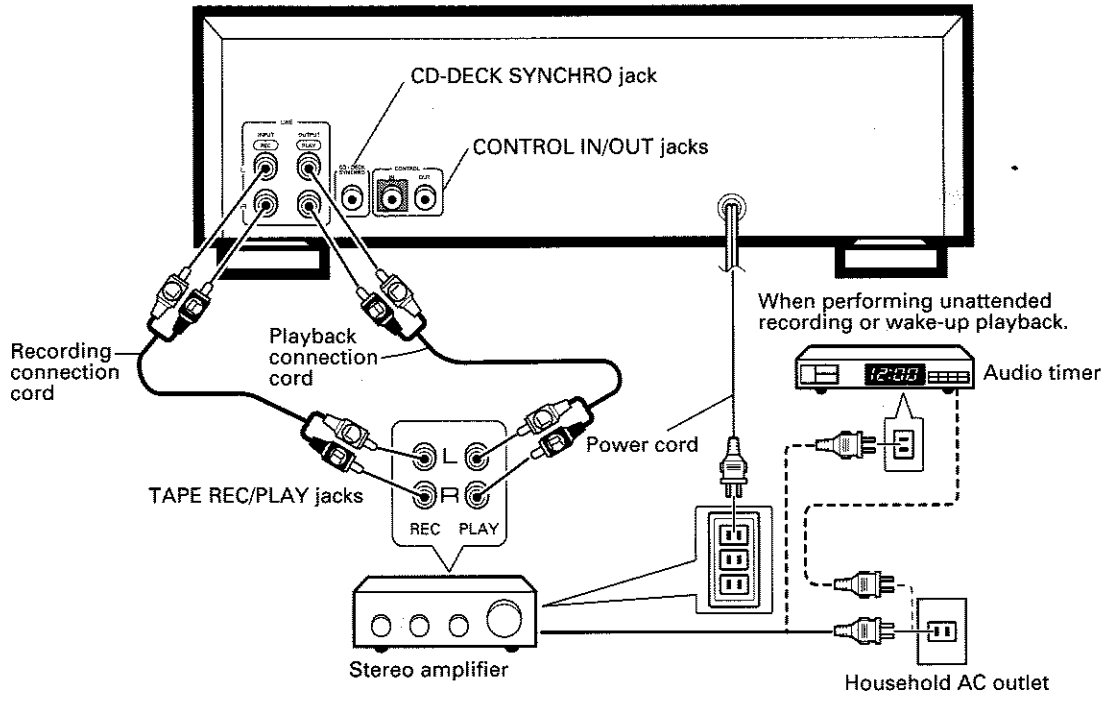
AUTOMATIC TAPE SELECTOR FUNCTION

This cassette deck is equipped with an automatic tape selector function which utilizes the sensor holes on the tape cassette to determine the type of tape being used. The cassette deck is then set to match the tape recording bias and equalization.

NOTES:

- *When using TYPE IV (Metal) tapes, make sure that the tapeshave sensor holes.*
- *Make sure that the sensor holes on the cassette are not blocked; otherewise the tape selector mechanism will not function properly.*
- *Do not use TYPE III (FeCr) tapes.*

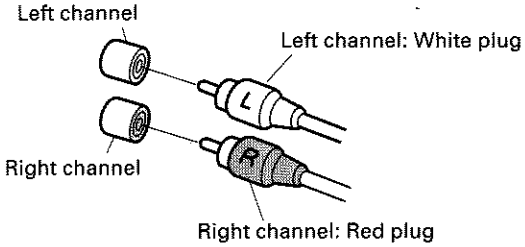
CONNECTIONS



- Read through the operating instructions of the stereo components which you intend to connect to this cassette deck.
- Turn the power on only after making all the connections.
- Make sure that the plugs are inserted securely. Improper connections may generate noise.

Connecting the input/output cords

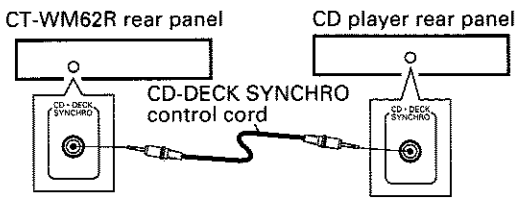
Connect the plugs properly.



CD-DECK SYNCHRO jack

If this cassette deck is used together with a PIONEER CD player equipped with the synchro recording function, synchro recording from the CD player can be carried out at the touch of a button (see page 22).

Use the enclosed CD-DECK SYNCHRO control cord to connect the CD-DECK SYNCHRO jack on this cassette deck to the CD-DECK SYNCHRO jack on the CD player.



Connection

Connect the CD-DECK SYNCHRO jack of this cassette deck to the CD-DECK SYNCHRO jack of the CD player using the enclosed CD-DECK SYNCHRO control cord.

NOTES:

- *Keep the input and output jacks connected between the amplifier and this cassette deck. Otherwise, CD-DECK SYNCHRO recording cannot be carried out*
- *Even when the CD player is connected to the amplifier with an optical fiber cable, connect the CD player to the amplifier or to this cassette deck with pin plug connection cords.*

PIONEER System remote control

If this cassette deck is connected to other PIONEER components bearing the SR mark, you will be able to operate all of the connected components with one remote control unit.

CONTROL IN jack

Use the enclosed mini-plug cord to connect this jack to the CONTROL OUT jack of another component equipped with PIONEER System remote control (bearing the SR mark).

CONTROL OUT jack

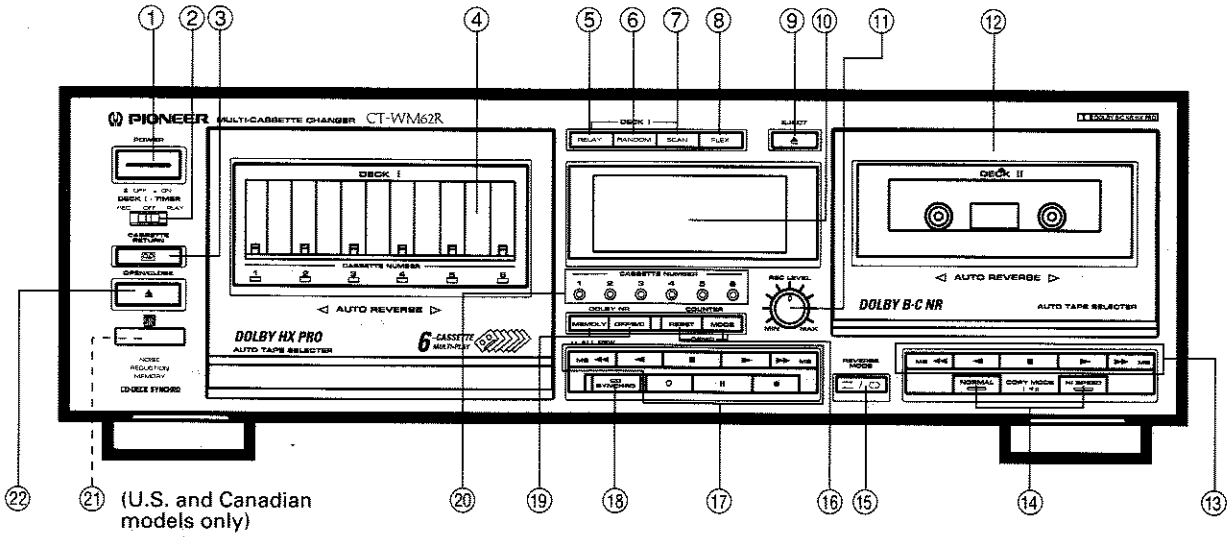
Intermediary jack which outputs signals from the CONTROL IN jack of this cassette deck to the input jack of another component.

Connect this jack to the CONTROL IN jack of another component compatible with PIONEER System remote control.

NOTE:

When the system remote control cord is connected to the CONTROL IN jack, the remote control sensor window will not operate (U.S. and Canadian models only).

FRONT PANEL FACILITIES



① POWER (■ OFF ▬ ON) switch
When the POWER switch is pressed to turn the cassette deck on, the 6 cassette indicators on the cassette door flash to indicate that the circuits are warming up. After about 10 seconds, the circuits become stable and the cassette deck can be operated .
All the indicators in the display window will light when the power is turned on. The display will be set to its normal state when one of the operation buttons is pressed.

② DECK I TIMER (REC, OFF, PLAY) switch
Use this switch to select the timer relay recording or timer relay playback functions (see pages 23~24).

③ CASSETTE RETURN button
Press this button to return the loaded cassette to the tray.

④ DECK I cassette door and tray
All of the cassette indicators on the cassette door flash while the cassette deck is warming up. When the cassette door is closed and there are cassettes on the tray, the indicators for the tray slots which contain cassette tapes (including the currently loaded tape) will light. When a cassette is being loaded from the tray, the corresponding indicator flashes.

⑤ RELAY button
Press this button to select relay recording or relay playback. The RELAY indicator lights when relay mode is selected.

⑥ RANDOM button
See page 19.

⑦ SCAN button
See page 19.

⑧ FLEX button

⑨ DECK II eject button (EJECT)
Press this button to open the cassette door of DECK II.
NOTE:
The cassette door cannot be opened while the tape is running (recording, playback, etc.). Press the stop (■) button of DECK II before pressing this button.

⑩ Display window
See page 11.

⑪ REC LEVEL control knob
See page 17.

⑫ DECK II cassette door

⑬ DECK II operation buttons

Fast forward (►► MS): If this button is pressed during stop mode, the tape is fast-forwarded in the direction of the arrows (towards the end of side A or the beginning of side B). If it is pressed during playback, the cassette deck skips forward one selection for each press of the button (up to 15 selections), and playback resumes at the beginning of the designated selection (see MUSIC SEARCH, page 20) .

Forward play (►): During stop mode, press this button to begin playback of side A, that is, the side facing outward (forward playback).
During recording standby mode, press this button to begin recording on side A.

Stop (■): Press this button to stop the tape transport.

Reverse play (◄): Press this button to begin playback of side B; that is, the side facing the rear of the cassette deck (reverse playback).
During recording standby mode, press this button to begin recording on side B.

Fast reverse (MS ◄◄): If this button is pressed during stop mode, the tape is fast-forwarded in the direction of the arrows (towards the beginning of side A or the end of side B). If it is pressed during playback, the playback position skips backward by one selection for each press of the button (up to 15 selections), and playback resumes at the beginning of the designated selection (see MUSIC SEARCH, page 20).

⑭ COPY MODE I ◅ II buttons

NORMAL: Press this button to copy a tape from DECK II to DECK I. (See page 21.)

HI SPEED: Press this button to copy a tape from DECK II to DECK I at twice the normal speed. (See page 21.)

⑮ REVERSE MODE button

Use this button to choose the tape transport mode.

⇄: One way mode. Tape transport stops after one side of a tape is played or recorded.
When relay mode is selected, after one cassette ends, playback or recording (of one side only) continues on the cassette in the next tape slot, and so on until the cassette in the highest numbered tape slot is reached.

↻: Reverse mode. During playback, both sides of the tape are played back continuously until the tape has been played back 8 times (16 sides). During recording, both sides of the tape are recorded, and then tape transport stops.
When relay mode is selected, after both sides of one cassette have been recorded or played back once, playback or recording continues on the cassette in the next tape slot, and so on until the cassette in the highest numbered tape slot is reached.

NOTE:

During recording, relay playback and random playback, the auto reverse function will only operate when the tape is moving from the end of side A to the beginning of side B. The tape cannot move automatically from the end of side B to the beginning of side A during these modes (i.e., the tape will stop at the end of side B even when reverse mode is selected).

This indicates that the cassette deck will switch automatically from side A to side B, but will not switch automatically from side B to side A. If, for example, recording is started from the beginning of side B, the tape will stop after only one side is recorded, even though reverse mode is selected.

⑯ COUNTER buttons

MODE: Each time this button is pressed, the multifunction display switches between tape counter display mode and time counter display mode.

RESET: When this button is pressed, the tape counter is reset to 0000 and the time counter is reset to 00: 00.

⑰ DECK I operation buttons

These buttons operate in the same way as the operation buttons of DECK II, with the following exceptions:

Forward play (►): If the tray is open when this button is pressed, it will close automatically, the cassette in the lowest numbered slot will be loaded, and side A will be played back.

Reverse play (◄): If the tray is open when this button is pressed, it will close automatically, the cassette in the lowest numbered slot will be loaded, and side B will be played back.

Fast reverse (MS ◄◄): Load a cassette tape in the tape transport mechanism, then press this button twice to select the ALL REWIND mode. The ALL REWIND mode begins from the currently playing tape. Press the button once more to return to nomal REWIND mode.

Recording (●): When this button is pressed, the cassette deck enters recording standby mode. Recording begins when the play (► or ◄) button or pause (II) button is pressed.

Pause (II): Press this button to temporarily pause recording or playback. Press the button again to resume recording or playback. The pause button cannot be used during fast-forward or fast-reverse. If this button is pressed after the recording (●) button is pressed, recording will begin.

Recording mute (O): When this button is pressed during recording, the cassette deck creates a 4-second blank space on the tape and then enters recording standby mode. If the button is pressed and held, the deck continues to create a blank space until the button is released (see page 17).

⑱ CD-DECK SYNCHRO recording button (CD SYNCHRO)

See page 22.

⑲ DOLBY* NR buttons

DOLBY NR MEMORY button:
Press this button to begin setting the DOLBY NR system, or to check the current DOLBY NR settings (see page 16).

DOLBY NR OFF/B/C button:
Press this button repeatedly to select the desired type of DOLBY NR. The selected type of DOLBY NR (B or C) is displayed.
If no display appears, DOLBY NR OFF is selected.
When playing back Dolby NR-encoded tapes, always select the same position (OFF, B or C) used for recording.

*

- *Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.*
- *"DOLBY", the double-D symbol ⧈ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.*

⑳ CASSETTE NUMBER buttons (1~6)

Press one of these buttons to select the cassette which will be loaded from the tray into the tape transport mechanism of DECK I.

㉑ Remote control sensor window (U.S and Canadian models only)

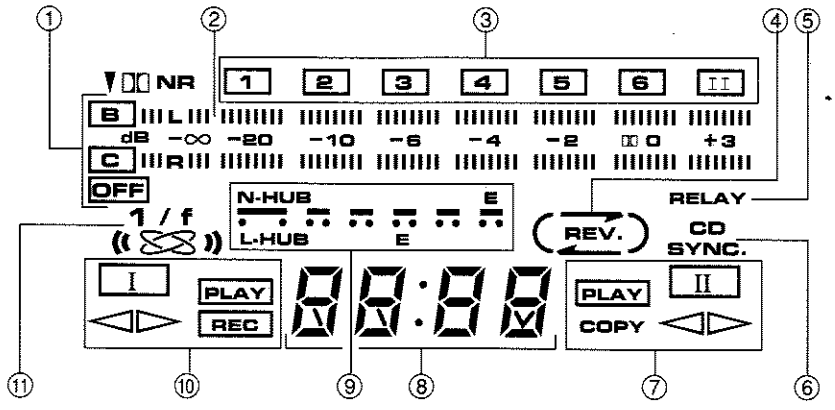
㉒ DECK I OPEN/CLOSE button (⏏)

Press this button to open the cassette door. When the door is open, cassette tapes can be placed onto or removed from the tray. If a cassette is loaded in the tape transport mechanism (see page 5), the door can still be opened and tapes can be added or removed. However, DO NOT place a cassette in the tray slot previously occupied by the loaded cassette.

NOTE:

The cassette tray cannot be opened unless the POWER switch is turned OFF.

DISPLAY WINDOW



① DOLBY NR B/C/OFF indicator
Indicates the selected type of Dolby noise reduction (B-type or C-type). The DOLBY NR system is turned OFF when neither of the B or C indicators are lighted. In this case, the OFF indicator will flash if the DOLBY NR MEMORY button is pressed.

② Level meter
Indicates the left and right channel signal levels. Indicates the recording level during recording, and the recorded level during playback. The ▯▯ mark beside 0 indicates the Dolby NR system standard level. The level meter on this cassette deck has a peak hold function which continues to display the peak level for 1.2 seconds, to make adjustment of the recording level easier.

③ Cassette number indicators/DECK II indicator
The cassette number indicators light when the indicated cassette has been loaded into the tape transport mechanism of DECK I. When the ALL REWIND mode is in operation, the number of the cassette being rewound will flash; when the ALL REWIND operation is completed, the number will go out.
When the DOLBY NR MEMORY button is pressed, the selected type of Dolby noise reduction for each tape is displayed below the cassette number and DECK II indicators (see page 16).

④ Reverse mode indicator (REV.)
Indicates the tape transport mode:
⇄: One way mode is selected.
(REV): Reverse mode is selected.
NOTE:
During recording, relay playback and random playback, the autoreverse function will only operate when the tape is moving from the end of side A to the beginning of side B. The tape cannot move automatically from the end of side B to the beginning of side A during these modes (i.e., the tape will stop at the end of side B even when reverse mode is selected).

⑤ RELAY indicator
Lights when the cassette deck is in relay mode.

⑥ CD Synchro indicator (CD SYNC.)
Lights when synchro recording from a CD player is being carried out. See pages 22~23.

⑦ DECK II tape transport indicators (II)
See page 13.

⑧ Multifunction display
See pages 14 and 20.

⑨ DECK I remaining time indicators
Indicate the approximate time remaining on the tape during recording and playback. When the tape is close to the end, each indicator will flash and then go off in sequence (see page 14).

⑩ DECK I tape transport indicators (I)
See page 13.

⑪ FLEX (1/f) indicator
If the FLEX button is pressed while the unit is in the play mode, the 1/f indicator lights, and the «≋» indicator flashes. When FLEX tuning is completed, the indicator lights steadily.

Dolby HX PRO Headroom Extension System

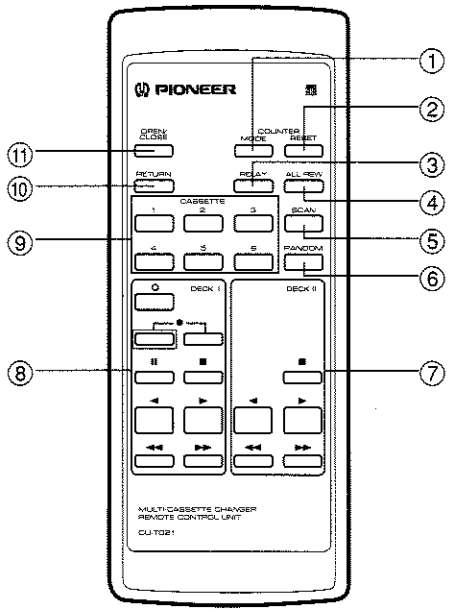
The Dolby HX PRO system controls the level of signals during recording and always keeps it at an optimal level according to the level of the high frequency components of the music signal and the tape bias. It therefore provides excellent recording quality even when recording signals from digital sources which contain a large amount of high-frequency components. To guarantee optimal recording results, The HX PRO system is activated automatically when recording begins. The Dolby HX PRO system operates regardless of the setting of the Dolby NR system buttons.

Dolby NR Systems

The Dolby NR systems are designed to reduce the amount of tape hiss, mainly in the treble components. During recording, the high-pitched pianissimo sounds which are most characteristic of audible noise are boosted, and during playback, only those boosted sections are attenuated, so that tape sound is returned to normal. As a result, the noise is attenuated by an amount equal to the boosting in the treble range. The Dolby B-type NR system reduces noise in the treble range, cutting tape hiss and expanding the dynamic range.
The Dolby C-type NR system is even more effective in reducing noise, as it cuts the noise from the mid-range on.

NOTE:
When a tape has been recorded using Dolby B-type or C-type noise reductlon, make sure that the DOLBY NR buttons are set to the same position during playback.

REMOTE CONTROL UNIT (U.S. and Canadian models only)



- The remote control unit buttons operate in the same way as the cassette deck buttons.

① COUNTER MODE button
See page 14.

② COUNTER RESET button
See page 14.

③ RELAY button
See pages 17 and 19.

④ All rewind button (ALL REW)
If this button is pressed when the unit is in the stop mode, all the cassette tapes in DECK I will be rewound (at high speed) to the beginning of side A, beginning with the cassette in the lowest numbered slot. If this button is pressed during tape playback, or otherwise when a tape has been loaded in the tape transport mechanism, the ALL REWIND operation will begin from the currently playing tape. "RL L" appears on the multifunction display when the button is pressed.

⑤ SCAN button
See page 19.

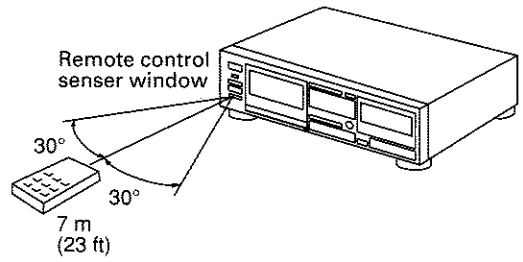
⑥ RANDOM button
See page 19.

⑦ DECK II operation buttons
See page 9.

⑧ DECK I operation buttons
See page 10.
- Both recording (●) buttons must be pressed at the same time to begin recording.

⑨ CASSETTE NUMBER buttons (1~6)
See page 10.

⑩ RETURN button
Press this button to return the tape currently loaded in DECK I to the tray.



⑪ OPEN/CLOSE button
See page 10.

NOTES:
- *Remote control will not be possible if there is an obstacle between the remote control unit itself and the remote control sensor window of the cassette deck*
- *If there is no response even when the remote control is used directly in front of the cassette deck, the batteries may need to be replaced*
- *Performance of the remote control unit is adversely affected by strong fluorescent light. Keep such lights away from the sensor window in particular.*

OPERATION OF DECK I WITH A REMOTE CONTROL UNIT NOT DESIGNED FOR DOUBLE DECKS (System remote control)

Selecting DECK I
In order to operate DECK I with the remote control unit, adjust the cassette deck as follows: With the power off, press and hold the stop (■) button of DECK I, and turn the power on. Continue to hold the stop (■) button until the cassette indicators on the door stop flashing. DECK I can now be operated using the remote control unit, but DECK II cannot.

Switching to DECK II
To restore remote control operation to DECK II, press the stop (■) button of DECK II while DECK II is in stop mode. DECK II can now be operated using the remote control unit. Remote control operation can be switched back and forth between DECK I and DECK II by pressing the stop (■) button of the desired deck while it is in stop mode.

NOTE:
If the power supply is turned off, or if a power failure or a sudden change in the power supply (caused by lightning, etc.) occurs, the cassette deck is reset to its original state. Only DECK II can be operated by remote control. To restore operation to either deck, repeat the procedure above from the beginning.

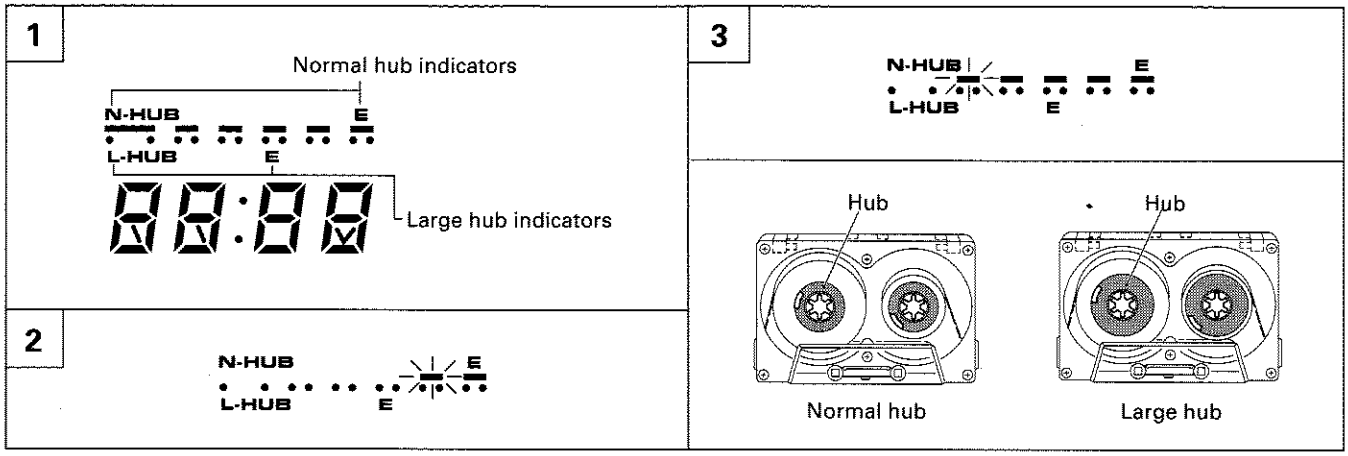
INDICATORS

TAPE TRANSPORT INDICATORS

The illustrations below show what the DECK I tape transport indicators look like during each of the various modes.
The DECK II indicators operate in the same way, but the positions of the play (PLAY) indicator and the arrows are reversed.

① Flashing quickly
② Flashing slowly

	Forward Playback Mode	Reverse Playback Mode
Stop		
Playback	PLAY	PLAY
Recording	REC	REC
Fast forward	①	①
Rewind	①	①
Recording pause	REC ②	REC ②
Playback pause	PLAY ②	PLAY ②
Recording mute	REC ②	REC ②
Forward Music Search	PLAY ①	PLAY ①
Reverse Music Search	PLAY ①	PLAY ①



DECK I Tape remaining time indicators

These indicators show the approximate amount of time remaining on the tape when the cassette deck is in the recording or playback mode. When the tape nears its end, the indicators flash and then go out one by one. The indicated time remaining will vary depending on the type of tape and the size of the hub.

When the tape nears its end, the remaining time indicators flash and go out one by one. Each indicator represents approximately 2 minutes of remaining time when using a C-60 or C-46 cassette tape, or approximately 2-1/2 to 3 minutes when using a C-90 cassette tape. When a tape with a large hub is used, the L-HUB "E" (end) indicator (the fourth indicator) indicates the end of the tape.

When a tape with normal hub is used, the N-HUB "E" (end) indicator (the sixth indicator) indicates the end of the tape. (Fig. 1)

EXAMPLES:

- During recording or playback of a C-90 tape with a normal hub. (Fig. 2 above)
  2 min. 30 sec. x 2 indicators = about 5 minutes remaining.
- During recording or playback of a C-46 tape with a large hub. (Fig. 3 above)
  2 min. x 3 indicators = approximately 6 minutes remaining.

NOTES:

- *When the "E" (end) indicator begins to flash, the tape will end soon.*
- *The function of the remaining time indicators varies somewhat depending on the thickness of the tape and the size of the hub.*
- *A standard "large" hub is about 1.1 inch (27mm) in diameter. If the loaded tape has a hub larger than that, the indicators may be incorrect.*

USING THE COUNTER

The multifunction display of this cassette deck can be switched between the tape counter display mode and the time counter display mode by pressing the COUNTER MODE button.

Tape counter:
The displayed number increases or decreases as the tape is forwarded or reversed.

Time counter:
This counter displays the amount of time (in minutes and seconds) which has elapsed since the start of playback or recording.

Before starting playback or recording, press the COUNTER RESET button to reset the tape counter to 0000 and the time counter to 00:00. Jotting down the value displayed on the counter at important points during recording or playback makes it easy to find those points later.

NOTE:

The time counter displays only the recording or playback time. If a fast-forward, fast-reverse, or music search operation is carried out during recording or playback, the time counter stops and the multifunction display switches to the tape counter display mode.

When recording or playback is resumed, it returns to time counter display mode, and the time counter begins again.

Do not turn off the power in mid-operation

If the POWER switch is turned off and then on again, the tape counter is reset to 0000.

The tape counter may display information about either DECK I or DECK II

The factors below determine which deck's tape counter information will be displayed.

- When a cassette tape is inserted into a deck. The tape counter will display information about that deck.
- If a cassette tape is inserted into one deck while the other deck is operating, the tape counter will display information on the deck into which the tape was inserted.
- When a cassette tape is removed from one deck, the tape counter will display information about the other deck.
  - If the tape in DECK I is changed, but the cassette tray is not opened (e.g., another tape from the tray is loaded), the tape counter will display information on DECK I.
- When an operation button is pressed, the tape counter will display information on the deck whose operation button was pressed .
  - If no cassette tape is loaded in the deck, the display will not change.
- If neither deck contains a tape, the tape counter will display information on DECK II.
- The counter indicator will not change from one deck to the other automatically.
- If you want to change the tape counter indication from one deck to the other during operation, press an operation button according to current operating mode of the disired deck.

EXAMPLE:

To change the tape counter to DECK I is currentry in recording mode, and DECK II is in stop mode.

Press the recording (●) button.

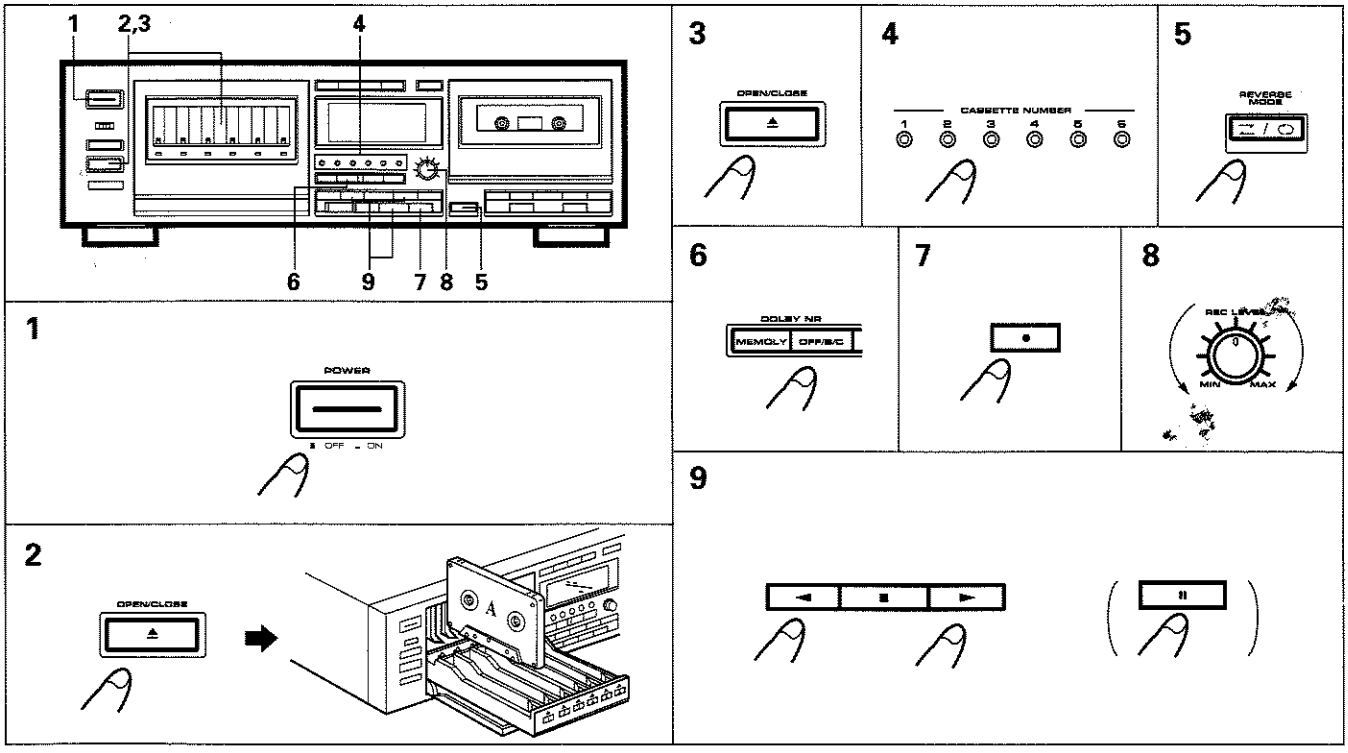
To change the tape counter to DECK II, press the stop (■) button.

FLEX (1/f) SYSTEM

- FLEX System: Frequency Level Expander System
- During playback, the FLEX system automatically compensates tapes with poor sound quality at high frequency levels of 1 kHz to 20kHz, based on the appropriate auditory characteristics.
  The FLEX system performs playback with up to a 12dB improvement in 10 kHz high frequency reproduction, particularly in tapes with poor clarity and sound presence at high frequency levels.
- When you press the FLEX button to turn the FLEX system on, the 1/f indicator light and start playback, the «⊠» indicator flash and compensation adjustment begins.
  After approximately 3~8 seconds, compensation adjustment is completed and the indicators change from a flashing to a steadily lit condition. Some music selections may take a little longer than 8 seconds.
- When the FLEX system is engaged, each music selection is automatically adjusted during playback. System operation status is indicated by whether the «⊠» indicators are flashing or steadily lit.
- Even when the FLEX system is turned on, during all recording functions, including CD-DECK synchro recording and tape copying, the 1/f indicator is nullified automatically.
- After beginning playback, all compensation data is memorized even if the playback is stopped. As a result, the same compensation data will be used when the playback is restarted. The memorized compensation data will be canceled, however, if the FLEX button is pressed again, if the tape is ejected, or if recording is begun.

NOTE:
When a tape has been recorded at a high frequency level above the compensation level, the FLEX system operation is automatically defeated during playback.

RECORDING (DECK I)



- Before turning on the POWER switch, make sure that the DECK I TIMER switch is set to OFF. If the DECK I TIMER switch is set to REC or PLAY, recording or playback will automatically begin approximately 10 seconds after the POWER switch is turned on.

1. **Turn the POWER switch on.**
2. **Place the cassettes on the tray.**
   Press the OPEN/CLOSE button and the tray will automatically slide open. Insert the cassettes with side A on the left, and the exposed (tape) side facing down. The tray can hold up to 6 cassettes at a time.

3. **Press the OPEN/CLOSE button to close the tray.**
4. **Press one of the CASSETTE NUMBER buttons to load the cassette for recording.**
5. **Select the desired tape transport mode with the REVERSE MODE button.**
   - To record on both sides of the tape, select "⊃" (reverse mode).
   - To record on only one side of the tape, select "→" (one way mode).
6. **Select the desired type of Dolby noise reduction with the DOLBY NR buttons (see below).**
7. **Press the recording (●) button to enter recording standby mode.**
8. **Adjust the recording level using the REC LEVEL control knob.**
   With the amplifier, select the audio source you wish to record and use the REC LEVEL control knob to adjust the recording level (see ADJUSTING THE RECORDING LEVEL, page 17).
9. **Start recording by pressing the appropriate play (► or ◄) button or the pause (II) button.**

One way mode recording (→)
Press the forward play (►) button to record on side A. Press the reverse play (◄) button to record on side B.

Reverse mode recording (⊃)
Press the forward play (►) button to begin recording on both sides.
If the reverse play (◄) button is pressed, recording will stop after only one side is recorded.

NOTES:
- *If the pause (II) button is pressed, recording will begin. The tape transport direction will be the direction displayed by the tape transport indicators when the button is pressed.*
- *During recording, the CASSETTE RETURN and CASSETTE NUMBER buttons do not operate.*
- *The cassette deck will not record on tapes whose erasure prevention tabs have been removed. Make sure that the tabs are intact before loading the tape for recording. If the tabs have been removed, put a piece of adhesive tape over the hole (see page 7).*

To stop recording:
Press the stop (■) button.

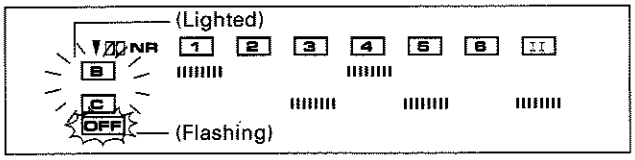
To pause recording:
Press the pause (II) button. To resume recording, press the pause button again or press the appropriate play (► or ◄) button.

ADDITIONAL RECORDING OPERATIONS

SETTING THE DOLBY NR SYSTEM

This cassette deck allows you to preprogram a different Dolby NR setting for each tape in DECK I. This lets you perform relay recording or relay playback of tapes with different types of Dolby NR.
The Dolby NR setting of DECK II is selected with the same buttons.
- To check the currently programmed Dolby NR settings: Press the DOLBY NR MEMORY button. The current settings appear on the display.

EXAMPLE:
The sample display below indicates the following preprogrammed Dolby NR selections:
tape 1: B-type, tape 2: off, tape 3: C-type, tape 4: B-type, tape 5: C-type, tape 6: off, DECK II: C-type.



Programming the Dolby NR settings of each tape (DECK I, DECK II)

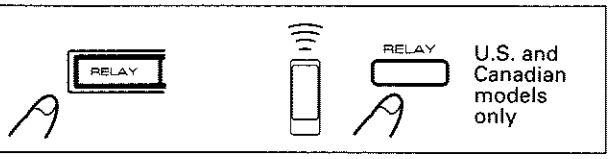
1. **Press the DOLBY NR MEMORY button.**
   - The currently programmed settings are displayed.
2. **Press the DOLBY NR OFF/B/C button repeatedly until the desired setting is displayed. (The DOLBY type to be memorized will flash.)**
3. **Press one of the CASSETTE NUMBER buttons.**
   - The selected tape is programmed to record or playback with the type of Dolby NR selected in step 2.
4. **Repeat steps 2 and 3 for the other tapes on the tray.**
5. **To set the Dolby NR for the tape in DECK II, press the DOLBY NR OFF/B/C button repeatedly until the desired setting is displayed. (The DOLBY type to be memorized will flash.)**
6. **Press the stop (■) button of DECK II.**

To change the Dolby NR setting during recording or playback:
Press the DOLBY NR OFF/B/C button until the desired setting is displayed. The memorized setting for the tape which is currently being recorded or played back will also change.
- During tape copying, only the Dolby NR setting of the playback tape will change.

To change the Dolby NR setting during stop mode:
Press the DOLBY NR OFF/B/C button until the desired setting is displayed. The current Dolby setting changes and the memorized setting for the currently loaded tape will change.
- The tape transport "I" and "II" indicators and cassette number indicators display the location of the cassette whose Dolby NR setting has been changed.

NOTES
- *The DOLBY NR MEMORY button switches the level meter from normal (audio level) display mode to Dolby NR memory display mode.*
- *During the Dolby NR setting procedure, none of the other operation buttons will function.*

RELAY RECORDING (DECK I only)



When relay recording is selected, the tapes will be recorded in order from the cassette in the lowest numbered slot to the cassette in the highest numbered slot. To select relay recording, press the RELAY button after starting to record, or press the RELAY button during stop mode, and then press the recording (●) button and the play (► or ◄) button to start recording.

NOTE:

If the erasure prevention tabs from any of the loaded cassettes have been removed, the cassette deck will stop when it encounters the removed tab (i.e., when it attempts to begin recording on the protected side). Relay recording is terminated. If the reverse play (◄) button is pressed, recording of the 1st cassette tape starts from side B, but recording of the rest of the cassette tapes begins from side A.

CREATING BLANK SECTIONS BETWEEN TRACKS

While the cassette deck is in recording mode, press the recording mute (O) button. The REC indicator will begin flashing and the cassette deck will create a blank section on the tape approximately 4 seconds long. The deck will then enter recording standby mode.

To resume recording, press the pause (II) button. If the recording mute (O) button is pressed and held, the cassette deck will continue to record a blank section until the button is released. When the button is released, the cassette deck will enter recording standby mode.

ERASING THE TAPE

1. **Set the REC LEVEL control knob to the "MIN" position.**
2. **Press the recording (●) button.**
3. **Press the play (► or ◄) button or pause (II) button.**

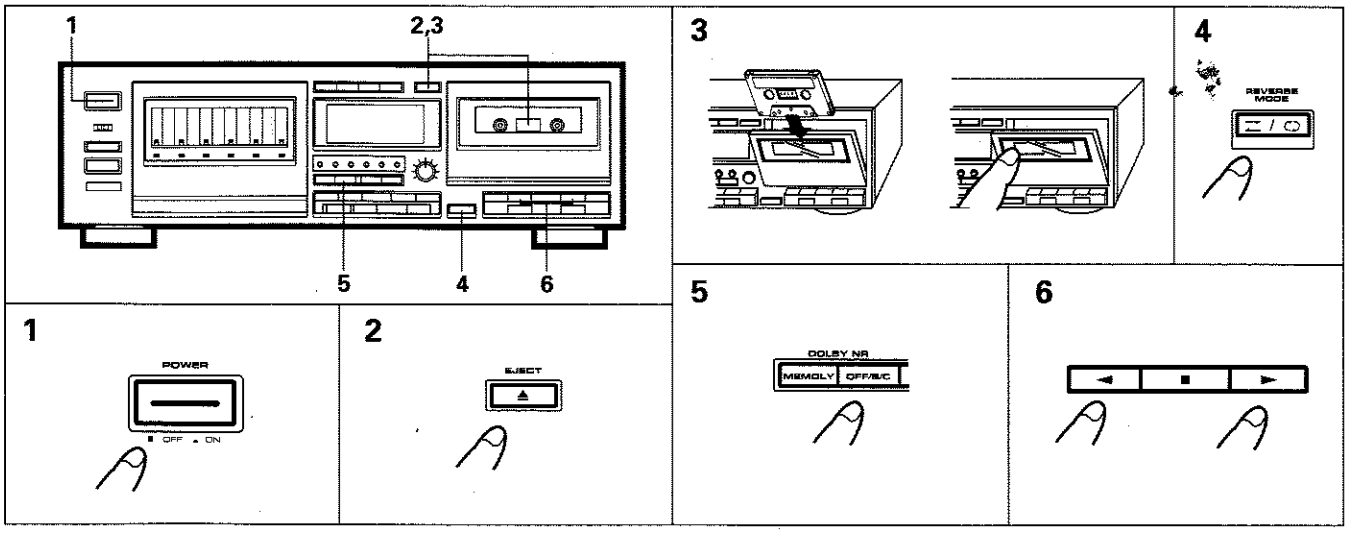
ADJUSTING THE RECORDING LEVEL

The adjustment of the recording level is the most important factor in achieving good recording results. A high level provides a good signal-to-noise ratio and dynamic range, but an excessively high level distorts the sound. If the level is set too low for fear of sound distortion, irritating tape hiss will mar the recording. The characteristics of tapes differ depending on the manufacturer and the type of tape. Set the REC LEVEL control knob so that the level meter's "0dB" indicator lights momentarily at peaks. The level meter on this cassette deck has a peak hold function, which continues to display the peak level for 2 seconds, to make adjustment of the recording level easier.

NOTE:

The optimum recording level may differ somewhat, depending on the audio source and type of tape used. In order to obtain the best possible results, set the recording level after actual testing. Listen to your recordings, and adjust the level as necessary.

PLAYBACK (DECK II)



1. **Turn the POWER switch on.**
2. **Press the EJECT button to open the cassette door.**
3. **Insert the cassette and close the door.**
   Insert the cassette with side A facing out and the exposed (tape) side facing down.
4. **Select the desired tape transport mode with the REVERSE MODE button.**
   - To repeatedly play both sides of the tape, select "↻" (reverse mode).
   - To play only one side of the tape, select "→" (one way mode).

5. **Select the desired Dolby noise reduction with the DOLBY NR buttons (see page 16).**
   Use the same type of Dolby NR that was used for recording.
6. **Start playback by pressing the appropriate play (► or ◄) button .**

One way mode playback (⇉)
Press the forward play (►) button to begin playback of side A.
Press the reverse play (◄) button to begin playback of side B.

Reverse mode playback (⇄)
Press the forward play (►) button to begin playback from side A, or press the reverse play (◄) button to begin playback from side B. Playback of both sides will continue until the tape has been played back 8 times (16 sides).

To stop playback:
Press the stop (■) button.

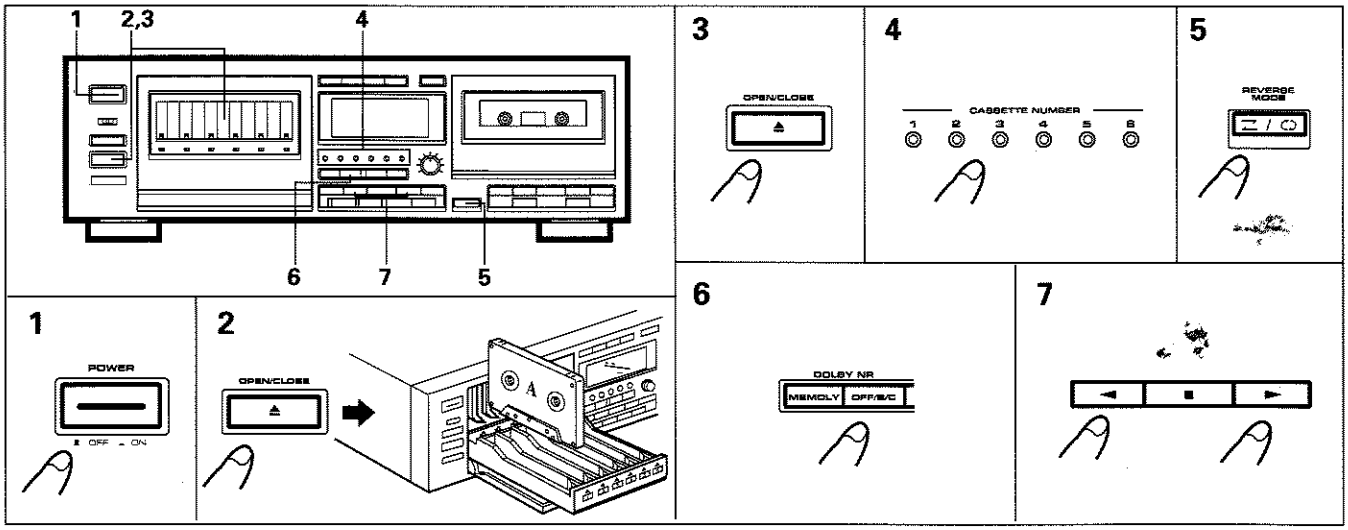
To fast-forward or fast-reverse the tape:
The fast-forward or fast-reverse (◄◄ or ►►) buttons operate only when the cassette deck is in stop mode. If the tape is running, press the stop (■) button to stop the tape.

- If the forward tape transport indicator (▷) is lit (Side A is playing), press the fast-forward (►►) button to fast-forward the tape, or the fast-reverse (◄◄) button to fast-reverse the tape.
- If the reverse tape transport indicator (◁) is lit (Side B is playing), press the fast-reverse (◄◄) button to fast-forward the tape, or the fast-forward (►►) button to fast-reverse the tape.

NOTES:

- *The blank skip function operates during playback on DECK II (Relay mode only, see page 19).*
- *When the unit is in the relay mode, playback will stop after each side has been played once, even if the REVERSE MODE button is used to select "⇄".*

PLAYBACK (DECK I)



1. **Turn the POWER switch on.**
2. **Place the cassettes on the tray.**
   Press the OPEN/CLOSE button to open the tray.
3. **Press the OPEN/CLOSE button to close the tray.**
4. **Press one of the CASSETTE NUMBER buttons to load the cassette for playback.**
5. **Select the desired tape transport mode with the REVERSE MODE button.**
   - To repeatedly play both sides of the tape, select "⇄" (reverse mode).
   - To play only one side of the tape, select "⇉" (one way mode) .
6. **Select the desired type of Dolby noise reduction with the DOLBY NR buttons (see page 16).**
   Use the same type of Dolby NR that was used for recording.
7. **Start playback by pressing the appropriate play (► or ◄) button.**
   - If none of the CASSETTE NUMBER buttons is pressed in step 4, the cassette in the lowest numbered slot will be loaded automatically.

One way mode playback (⇉)
Press the forward play (►) button to begin playback of side A.
Press the reverse play (◄) button to playback of side B.

Reverse mode playback (⊃)
Press the forward play (►) button to begin playback from side A, or press the reverse play (◄) button to begin playback from side B. Playback of both sides will continue until the tape has been played back 8 times (16 sides).

To stop playback:
Press the stop (■) button.

To temporarily pause playback:
Press the pause (❚❚) button. To resume playback, press the pause button again, or press the appropriate play (◄ or ►) button.

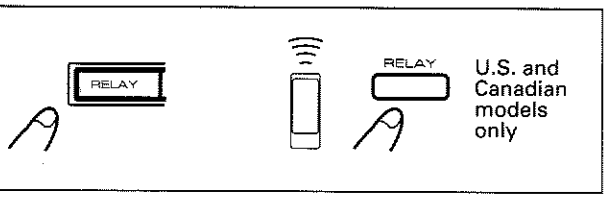
To fast-forward or fast-reverse the tape:
The fast-forward or fast-reverse (◄◄ or ►►) buttons operate only when the cassette deck is in stop mode. If the tape is running, press the stop (■) button to stop the tape.

- If the forward tape transport indicator (▷) is lit (Side A is playing), press the fast-forward (►►) button to fast-forward the tape, or the fast-reverse (◄◄) button to fast-reverse the tape.
- If the reverse tape transport indicator (◁) is lit (Side B is playing), press the fast-reverse (◄◄) button to fast-forward the tape, or the fast-forward (►►) button to fast-reverse the tape.

BLANK SKIP FUNCTION (RELAY MODE ONLY)

If a blank section of tape is played back for more than 15 seconds, the cassette deck will automatically forward the tape to the beginning of the next track, or to the end of the tape.

RELAY PLAYBACK (DECK I only)



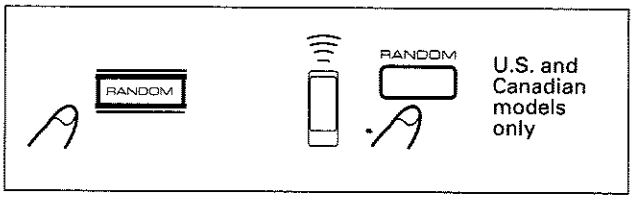
When relay playback is selected, the tapes will be played back in order, from the tape in the lowest numbered cassette slot to the tape in the highest numbered slot. Press the RELAY button during playback, or press the RELAY button during stop mode and then press the play (► or ◄) button. If the reverse play (◄) button is pressed, the first tape will begin playback from side B. However, the rest of the tapes will automatically begin playback from side A.

When one way mode (⇀) is selected:
One side of each tape is played back, then the next tape is loaded.

When reverse mode (⊃) is selected:
Both sides of each tape are played back, then the next tape is loaded. In order for both sides to be played back, all tapes must be rewound to the beginning of side A. If a tape is rewound to the beginning of side B, playback of that tape will end after one side (side B) has been played back, and the next tape will be loaded.

NOTE:
The blank skip function operates during relay playback.

RANDOM PLAYBACK (DECK I only)



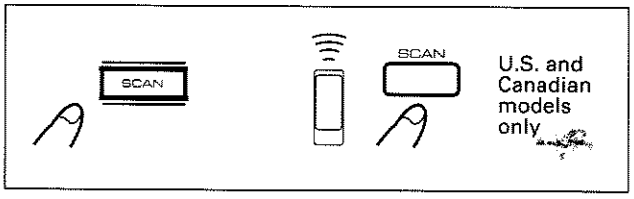
If the RANDOM button is pressed during stop mode or playback mode, "RANDOM" will appear on the multifunction display, and all cassettes on the tray will be played back in a random order (Playback always begins from side A).

When one way mode (⇀) is selected:
The cassette deck will stop after one side of each tape has been played back.

When reverse mode (⊃) is selected:
The cassette deck will stop after both sides of each tape have been played back. If a tape is rewound to the beginning of side B, playback of that tape will end after only one side (side B) has been played back, and the next tape will be selected.

NOTE:
The blank skip function operates during random playback (see page 19).

SCAN PLAYBACK (DECK I only)



If the SCAN button is pressed during stop mode or playback mode, "SCAN" will appear on the multifunction display, and the first 10 seconds of all cassettes on the tray will be played back, beginning with the cassette in the lowest numbered slot (Playback always begins from side A).

NOTE:
The blank skip function operates during scan playback (see page 19).

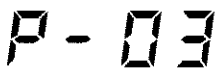
MUSIC SEARCH

By searching for and detecting the blank spaces between recorded tracks, the music search function can skip forward or backward automatically to the beginning of a designated track and begin playing that track. The music search function can skip forward or backward a maximum of 15 tracks. The selected track is shown on the multifunction display.

Returning to the beginning of the track which is currently playing:
If the forward tape transport indicator (▷) is lit (Side A is playing), press the fast-reverse (◀◀) button to return to the beginning of the current track. If the reverse tape transport indicator (◁) is lit (Side B is playing), press the fast-forward (▶▶) button to return to the beginning of current track.

Moving to a track located prior to the one which is playing:
If the forward tape transport indicator (▷) is lit (Side A is playing), press the fast-reverse (◀◀) button the same number of times as the number of tracks to be skipped plus one. If the reverse tape transport indicator (◁) is lit (Side B is playing), press the fast-forward (▶▶) button the same number of times as the number of tracks to be skipped plus one.

EXAMPLES:
To move to the track immediately prior to the current one, press the fast-forward or fast-reverse (◀◀ or ▶▶) button twice.
To move to the track located two tracks before the current one, press the fast-forward or fast-reverse (◀◀ or ▶▶) button three times. In the latter case, the following appears on the multi-function display:

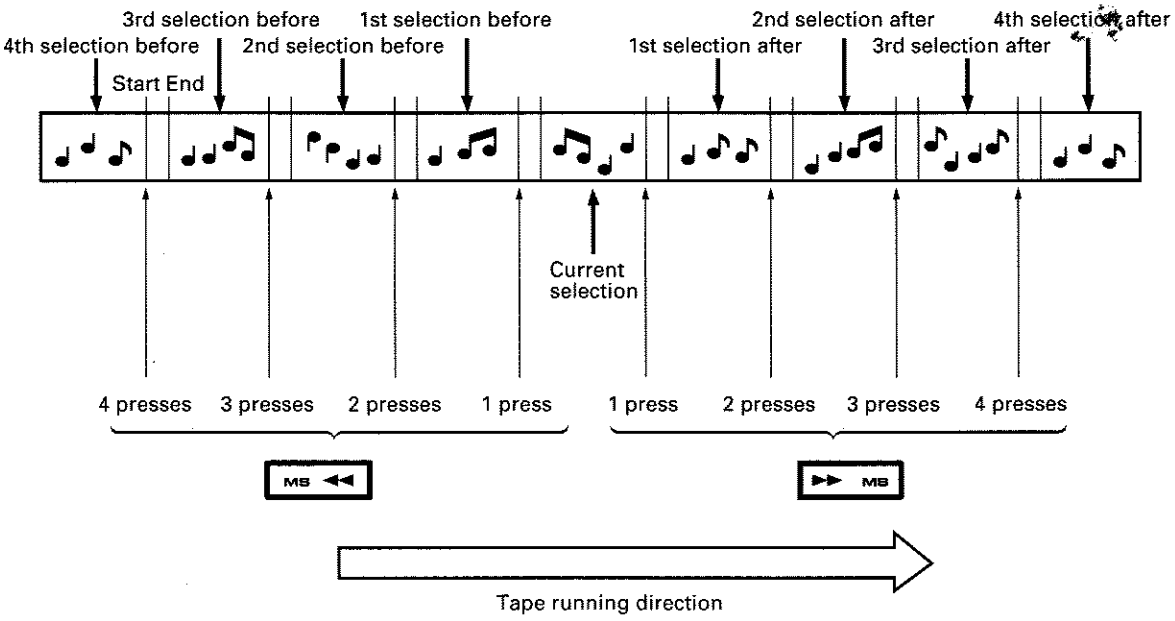


Moving to a track located after the one which is playing:
If the forward tape transport indicator (▷) is lit (Side A is playing), press the fast-forward (▶▶) button the same number of times as the number of tracks to be skipped. If the reverse tape transport indicator (◁) is lit (Side B is playing), press the fast-reverse (◀◀) button the same number of times as the number of tracks to be skipped .

EXAMPLES:
To move to the track immediately following the current one, press the fast-forward or fast-reverse (◀◀ or ▶▶) button once.
To move to the track located three tracks after the current one, press the fast-forward or fast-reverse (◀◀ or ▶▶) button three times. In the latter case, the following appears on the multi-function display:

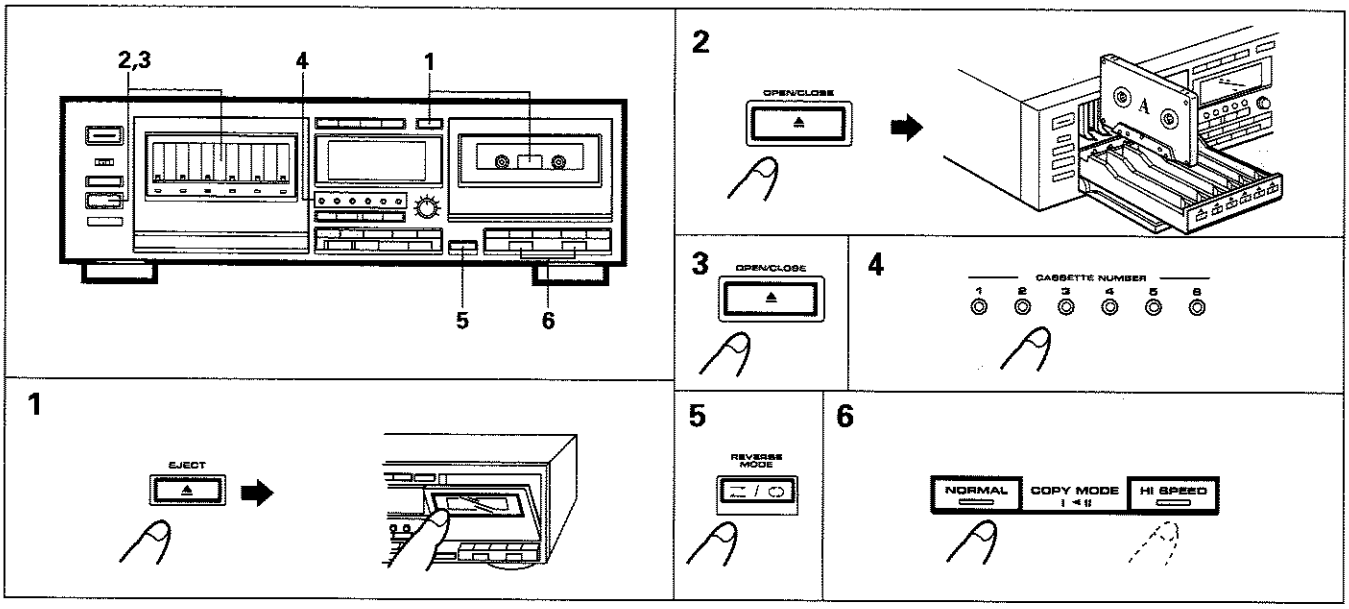
NOTES:
- *When the music search function skips backwards, it searches for and detects the blank spaces between each track, including the space prior to the track which is currently playing. Therefore, keep in mind that the fast-forward or fast-reverse (▶▶ or ◀◀) button must be pressed once for the current track, then the same number of times as tracks to be skipped (i.e. once more for the track immediately prior fo the current one, twice more for the track two prior to the current one, etc.)*
- *If the blank spaces between tracks are of insufficient length, contain noise, or if there are quiet sections in the middle of tracks, music search may not operate properly. Thls is not a malfunction, but simply a result of the cassette deck's inability to properly locate the beginning and end of each track. The following types of tapes may cause such problems:*
  - *Tapes which do not have blank spaces of at least 4 seconds between tracks.*
  - *Classical music tapes, tapes of meetings or dialogues, and other tapes which contain pauses or quiet portions in the middle of a track.*
  - *Tapes which contain excessive noise in the blank sections between tracks.*

EXAMPLE:
When the forward tape transport indicator (▷) is lit.



TAPE COPYING

COPYING A TAPE (DECK II TO DECK I)



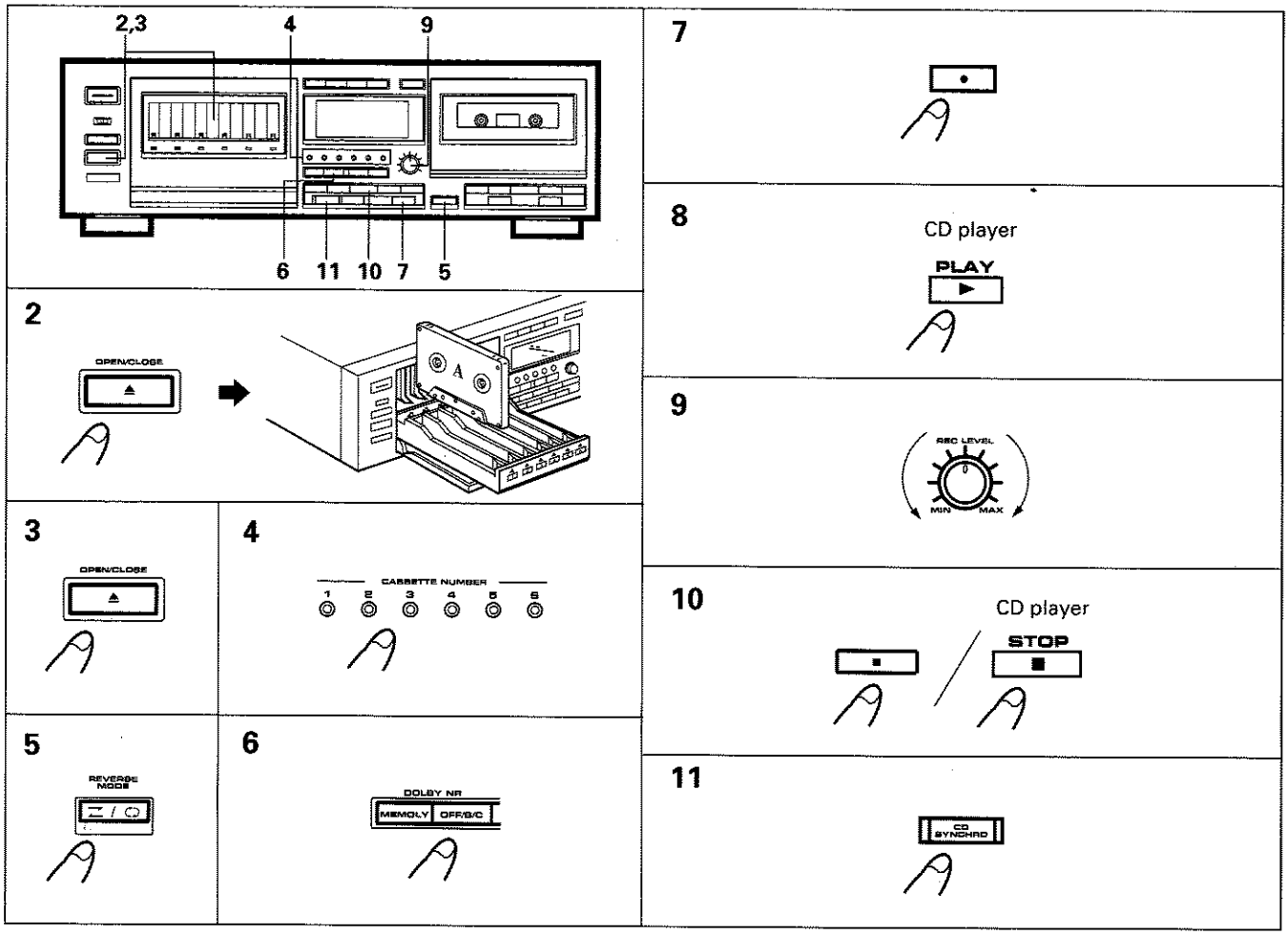
1. **Load the cassette for playback in DECK II.**
   - Tape copying must begin from side A. Therefore, make sure that the tape is rewound to the beginning of side A, and the forward play indicator (▷) is lit.
2. **Place the cassette(s) for recording on the cassette tray of DECK I.**
   - Make sure that the erasure prevention tabs are intact.
3. **Press the OPEN/CLOSE button to close the tray.**
4. **Press one of the CASSETTE NUMBER buttons to load the tape for recording.**
   - Tape copying must begin from side A. Therefore, make sure that the tape is rewound to the beginning of side A, and the forward play indicator (▷) is lit.
5. **Select the desired tape transport mode with the REVERSE MODE button.**
   - To copy only one side of the tape, select "→" (one way mode).
   - To copy both sides of the tape, select "↻" (reverse mode).
6. **Press one of the COPY MODE buttons to select the desired copying mode:**
   - To listen to the playback during copying, press the NORMAL button.
   - To copy the tape at twice the normal playback speed, press the HI-SPEED button.
   - The copied tape is recorded with the same Dolby noise reduction characteristics as the playback tape, regardless of the settings of the DOLBY NR system.

To stop in the middle of tape copying:
Press the stop (■) button of either DECK I or DECK II. Both decks will stop.

NOTES:
- *During HI-SPEED copying, none of the operation buttons will function, except the stop (■) button.*
- *During NORMAL copying, the recording mute (O) and pause (II) buttons of DECK I also function.*

Note on HI-SPEED Copying:
If the cassette deck is located near a television set, a high pitched whistling sound may be recorded during high-speed copying. If this occurs, move the cassette deck away from the television set, use normal speed copying, or turn the television set off.

CD-DECK SYNCHRO RECORDING (DECK I only)



This cassette deck has two synchro recording systems. One is for normal synchro recording, in which one or more compact discs are recorded onto a single cassette tape. The other is for relay synchro recording, in which one compact disc is recorded onto each tape, and the tapes are automatically changed as the CDs are changed .

- CD-Deck synchro recording can only be carried out when this unit is connected to a PIONEER CD player equipped with a CD-DECK SYNCHRO jack (see page 8).

NORMAL SYNCHRO RECORDING

Program recording

If the CD player has a program function to determine the order of playback, program the CD player before beginning this operation.

1. **Load a compact disc into the CD player.**
2. **Place the cassettes on the tray.**
   - Make sure the erasure prevention tabs are intact.
3. **Press the OPEN/CLOSE button to close the tray.**
4. **Press one of the CASSETTE NUMBER buttons to load the cassette for recording.**
5. **Select the desired tape transport mode with the REVERSE MODE button.**
6. **Select the desired Dolby noise reduction systems with the DOLBY NR buttons (see page 16).**
7. **Press the recording (●) button to enter recording standby mode.**
8. **Press the play button of the CD player.**
9. **Adjust the recording level (see page 17).**
10. **Press the stop buttons of both the cassette deck and the CD player.**
    - Unless both this cassette deck and the CD player are in stop mode, synchro recording cannot be performed.
11. **Press the CD SYNCHRO button.**
    - The cassette deck begins recording and the CD player starts playing about 10 seconds later.

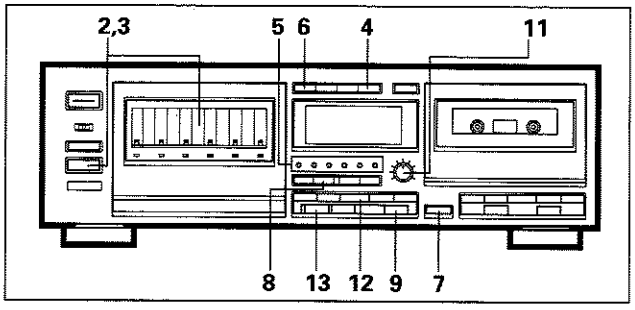
When the compact disc finishes playing:
The CD player enters stop mode and the cassette deck enters recording standby mode. Change the disc and press the play button of the CD player to resume recording. If the CD player does not resume play within 1 minute, the cassette deck enters stop mode .

When the CD player changes discs (twin-tray or multi-play CD players):
The cassette deck enters recording standby mode, and resumes recording when the CD player begins playing the next disc. A 4-second blank space is automatically created between tracks.

If the tape ends while the CD is still playing:
The CD player returns to the beginning of the current selection and enters pause mode. To resume recording, load another tape and check the tape running indicator to make sure that the tape is moving in the desired direction. If not, press the playback (► or ◄) button to change the tape direction, then immediately press the stop (■) button. When the proper direction is selected, press the CD SYNCHRO button again. If the CD SYNCHRO button is not pressed within one minute, the CD player enters stop mode.

If the auto-reverse function operates while the CD player is still playing:
The CD player returns to the beginning of the current selection and enters pause mode. A 10-second blank space is automatically created on the reverse side, then the CD player resumes playback and the cassette deck resumes recording.

RELAY SYNCHRO RECORDING



NOTE:
During Relay Synchro Recording, it is only possible to program the playback order of one disc at a time.

1. **Load a compact disc into the CD player.**
2. **Place the cassettes on the tray.**
   - Make sure the erasure prevention tabs are intact.
3. **Press the OPEN/CLOSE button to close the tray.**
4. **Press the remote control unit's ALL REW button.**
   - Even if the tape has been set to playback, pressing the fast-reverse (◄◄) button twice will select the ALL REWIND mode.
   - Wait until the rewind operation is finished.
5. **Press one of the CASSETTE NUMBER buttons to load the cassette for recording.**
6. **Press the RELAY button to select relay mode.**
7. **Select the desired tape transport mode with the REVERSE MODE button.**
8. **Select the desired type of Dolby noise reduction for each cassette with the DOLBY NR buttons (see page 16).**
9. **Press the recording (●) button to enter recording standby mode.**
10. **Press the play button of the CD player.**
11. **Adjust the recording level (see page 17).**
12. **Press the stop buttons of both the cassette deck and the CD player.**
    - Unless both this cassette deck and the CD player are in stop mode, synchro recording cannot be performed.
13. **Press the CD SYNCHRO button.**
    - The cassette deck begins recording and the CD player starts playing about 10 seconds later.

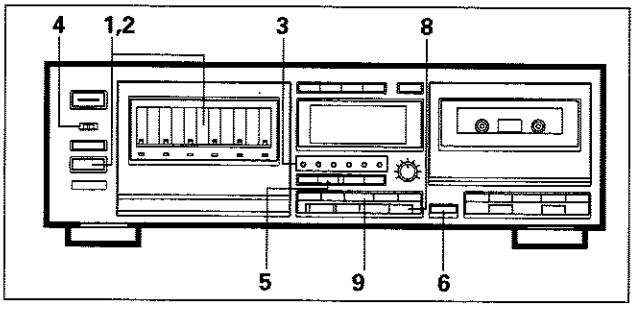
When the compact disc finishes playing:
The CD player enters stop mode and the cassette deck loads the next cassette, then enters recording standby mode. Change the disc and press the play button of the CD player to resume recording. If the CD player does not resume play within one minute, the cassette deck enters stop mode.

When the CD player changes discs (twin-tray or multi-play CD players):
The cassette deck loads the next cassette tape and then enters recording standby mode. The CD player will change the disc, and the cassette deck resumes recording when the CD player begins playing the next disc. The cassette deck begins recording, and the CD player begins playback about 10 seconds later.

If the tape ends while the CD is still playing:
The CD player plays the rest of the compact disc. The cassette deck waits until the CD finishes playing, then loads the next tape and enters recording standby mode.

NOTE:
If the erasure prevention tabs have been removed from any of the loaded cassettes, the cassette deck will stop when it encounters the removed tab (i.e., when it attempts to begin recording on the protected side). Relay synchro recording is terminated.

RECORDING USING AN AUDIO TIMER (DECK I only)



When this cassette deck is connected to an audio timer, two timer modes can be selected. Timer Relay Recording or Timer Playback.

TIMER RELAY RECORDING

(Unattended recording from tuner, etc.)
At the selected time, relay recording of all tapes on the tray begins, starting with the tape in the lowest numbered slot.

1. **Place the cassettes on the tray.**
   - Make sure that the erasure prevention tabs are intact.
2. **Press the OPEN/CLOSE button to close the tray.**
3. **Press one of the CASSETTE NUMBER buttons to load the cassette for recording.**
   For relay recording, press the CASSETTE NUMBER button to load the tape you want to record first.

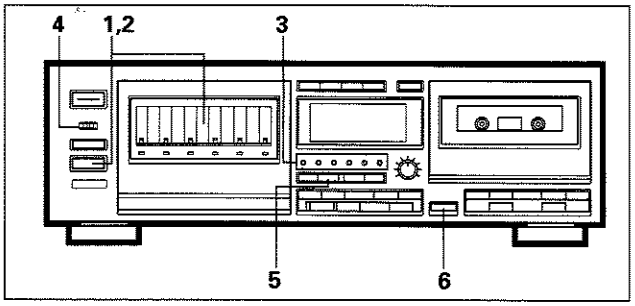
4. **Set the DECK I TIMER switch to the REC position.**
5. **Select the desired type of Dolby noise reduction for each cassette with the DOLBY NR buttons (see page 16).**
6. **Select the desired transport mode using the REVERSE MODE button.**
   One way mode recording (⇄)
   To record on side A, press the forward play (►) button and immediately press the stop (■) button. To record on side B, press the reverse play (◄) button and immediately press the stop (■) button. If the reverse play (◄) button is pressed, side B of the first tape will be recorded. However, all other tapes will automatically be recorded on side A.
   Reverse mode recording (⊂⊃)
   Press the forward play (►) button, then immediately press the stop (■) button. If the reverse play (◄) button is pressed, recording will stop after only one side is recorded. Check the tape transport indicators to ensure that the desired direction is selected .
7. **Select the desired audio source with your amplifier and tuner.**
8. **Press the recording (●) button to enter recording standby mode, and adjust the recording level (see page 17).**
9. **Press the stop (■) button.**
10. **Set the audio timer.**
    When the timer is set, it will turn off the power of all connected components. At the time set on the audio timer, the power will be turned on, and recording will begin automatically.
    - Since setting timer recording will cause relay mode to be selected, any tapes which you do not wish to be recorded over should be removed from their slots.

When not using the timer function
Make sure that the DECK I TIMER switch is set to the OFF position. If the switch is left in the REC or PLAY position, recording or playback may begin unexpectedly when the power is turned on.

Audio timer connections
Refer to the operating instructions supplied with the audio timer.

PLAYBACK USING AN AUDIO TIMER (DECK I only)

TIMER PLAYBACK



The cassette deck is automatically set to the relay mode, and plays back all tapes starting with the tape in the lowest numbered slot.

1. **Place the cassettes on the tray.**
2. **Press the OPEN/CLOSE button to close the tray.**
3. **Press one of the CASSETTE NUMBER buttons to load the cassette for playback.**
4. **Set the DECK I TIMER switch to the PLAY position.**
5. **Select the same Dolby noise reduction for each cassette that was used for recording (see page 16).**
6. **Select the desired transport mode using the REVERSE MODE button.**
   One-way mode playback (⇄)
   To playback side A, press the forward play (►) button, immediately followed by the stop (■) button. To playback side B, press the reverse play (◄) button immediately followed by the stop (■) button. If the reverse play (◄) button is pressed, side B of the first tape will be played back. However, all other tapes will automatically be played back on side A only.
   Reverse mode playback (⊂⊃)
   Press the forward play (►) button, immediately followed by the stop (■) button. If the reverse play (◄) button is pressed, playback will stop after only one side is played back. Check the tape transport indicators to ensure that the desired direction has been selected .
7. **Adjust the volume and tone controls on the amplifier.**
8. **Set the audio timer.**
   When the timer is set, it will turn off the power of all connected components. At the time set on the audio timer, the power will be turned on and playback will begin automatically.
   The direction of tape playback will be that selected before the power was turned off.

When not using the timer function
Make sure that the DECK I TIMER switch is set to the OFF position. If the switch is left in the REC or PLAY position, recording or playback may begin unexpectedly when the power is turned on.

Audio timer connections
Refer to the operating instructions supplied with the audio timer.

MAINTENANCE

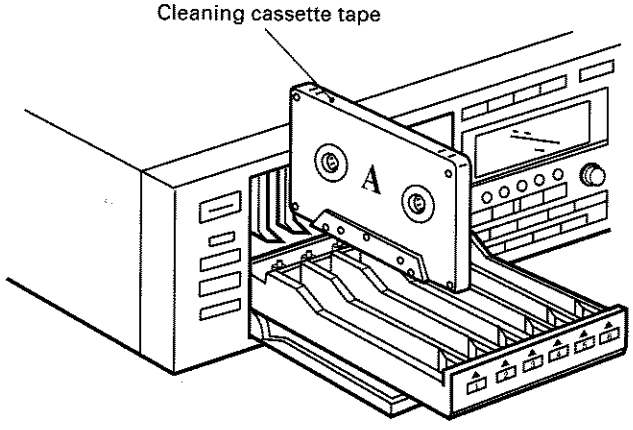
When the heads of the cassette deck get dirty, they are not able to record or play back cassette tapes clearly. The sound will be distorted or the high frequency sounds will not be reproduced. Therefore, the heads should be cleaned whenever necessary.

CLEANING THE HEADS, PINCH ROLLERS AND CAPSTANS

The heads, pinch rollers and capstans are likely to get dirty quite easily. If these parts; particularly the heads; get dirty, the high frequency components of recording will not be reproduced and the stereo balance will be impaired, resulting in a deterioration of the playback sound. It is therefore recommended that the head section be cleaned regularly. Use a commercially available cleaning cassette. Be sure to follow the instructions of the cleaning cassette tape carefully.

NOTES:

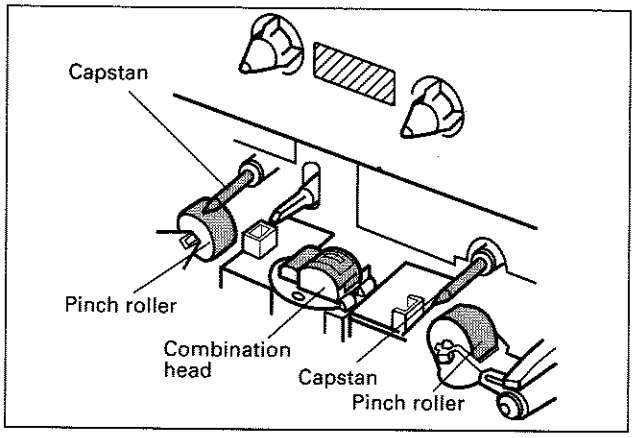
- *Use a commercially available "Wet type" cleaning cassette tape.*
  (For details, refer to the instructions supplied with the cleaning cassette tape.)
- *Clean the heads regularly, after about 10 hours or so of use.*



Caution:

- *Do not use dry-type cleaning cassette tapes.*
- *After cleaning the head, do not load a cassette tape until the cleaning fluid has dried completely (about 2 or 3 minutes).*

Head cleaning for DECK II



Dip a cleaning swab in cleaning fluid and use it to wipe the heads, capstans and pinch rollers.

Caution:

After cleaning the head, do not load a cassette tape until the cleaning fluid has dried completely (about 2 or 3 minutes).

CLEANING THE FRONT PANEL SECTION

Clean the cassette deck regularly with a soft cloth. If the front panel becomes soiled, moisten a soft cloth with a weak solution of neutral detergent (diluted in five to six parts water), wring the cloth well, and wipe the panel clean. Never use volatile cleaners like thinners, benzine or alcohol because they will damage the panel finish.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
POWER		
The power does not go on.	• The power cord is unplugged. • The component (amplifier, timer, etc.) to which the cord is attached is off.	• Insert the power cord correctly. • Turn the stereo amplifier or audio timer on.
REMOTE CONTROL UNIT (U.S. and Canadian models only)		
The remote control does not operate.	• Too far from cassette deck or wrong angle. • The system remote control cord is connected.	• Point the remote control unit at the remote sensor window. • Send the remote control infrared signal to the remote control receiving unit of the system.
PLAYBACK		
The tape stops immediately.	• The tape is completely wound. • The tape is slack.	• Begin playback in opposite direction. • Rewind the tape. • Take up the slack (see page 7).
The level meter does not work.	• The tape is not recorded. • **The tape heads are dirty.**	• Replace the tape with a recorded one. • **Clean the heads (see page 25).**
There is no sound.	• The amplifier input selector is not set properly. • The amplifier volume is too low. • There are connection problems (wrong connection, poor contact, broken wire.)	• Set the input selector to select the deck. • Turn up the volume. • Check all connections.
RECORDING		
The recording (REC) indicator does not light.	• The erasure prevention tabs are removed.	• Replace the cassette with one whose tabs are intact, or cover the hole with a piece of tape (see page 7).
The level meter does not work.	• The REC LEVEL control is set too low. • The amplifier is not delivering a signal to the deck. • There are connection problems (wrong connection, poor contact, broken wire).	• Turn the REC LEVEL control up. • Set the amplifier to select the recorded signal. • Check all connections.
The tape stops immediately.	• The tape is completely wound. • The tape is slack.	• Begin recording in opposite direction. • Rewind the tape. • Take up the slack (see page 7).
The tape cannot be recorded.	• **The tape heads are dirty.**	• **Clean the heads (see page 25).**

Symptom	Cause	Remedy
POOR SOUND QUALITY		
The sound is unstable or interrupted.	• **The heads, pinch rollers and capstans are dirty.** • The tape is not uniformly wound.	• **Clean the heads, etc. (see page 25).** • Fast forward or rewind the tape completely.
There are no high frequencies.	• A tape recorded without Dolby NR is being played back with the DOLBY NR switch set to B or C position. • **The heads are dirty.**	• Set the DOLBY NR switch to OFF. • **Clean the heads (see page 25).**
High frequencies are emphasized.	• A Dolby NR tape is being played back with the DOLBY NR switch set to OFF	• Set the DOLBY NR switches to the same positions used for recording.
The sound from previous recordings remains when the tape is re-recorded.	• **The heads are dirty.**	• **Clean the heads (see page 25).**
The sound is distorted.	• The recording level is too high. • The recorded signal itself is distorted. • **The heads are dirty.**	• Turn the REC LEVEL control down. • Replace the cassette tape. • **Clean the heads (see page 25).**
There is too much noise.	• A noisy tape is being used. • There is a faulty connection. • The recording level is too low. • **The heads are dirty.**	• Replace the cassette tape. • Check all connections. • Turn the REC LEVEL control up. • **Clean the heads (see page 25).**
OTHER		
The music search function does not operate properly .	• The blanks between selections are less than 4 seconds long.	• Use a tape with blanks between selections of at least 4 seconds.
Recording or playback starts suddenly when the power is turned on.	• The DECK I TIMER switch is not set to OFF.	• Set the DECK I TIMER switch to OFF.
Cannot use the remote control system.	• The control cord is not connected.	• Connect the control cord (see page 8).
The Err indicator appears.	• Faulty operation.	• Turn power off then on again.
CD-DECK SYNCHRO recording cannot be carried out.	• The CD-DECK SYNCHRO control cord and Input/Output cords are not connected. • The cassette tape accidental erasure prevention tabs are removed.	• Connect correctly. • Replace the cassette with one whose tabs are intact (see page 7).
The CD SYNC indicator is off during CD-DECK SYNCHRO recording.	• The tape ran out during the CD-DECK SYNCHRO mode. • After the deck entered recording standby mode, more than 1 minute elapsed before the CD player resumed playback.	• Replace the tape with a longer one. • Change the disc and press the CD SYNCHRO button again.

SPECIFICATIONS

System .....4-track, 2-channel stereo
Heads .....“Hard Permalloy” recording/playback head x 1
“Hard Permalloy” playback head x 1
“Ferrite” erasing head x 1
Motors .....DC servo motor (capstan) x 2
DC motor (open/close, loading) x 2
Wow and flutter.....No more than 0.09% (WRMS)
Fast winding time .....Approximately 120 seconds
(C-60 tape)

Frequency response
–20 dB recording:
TYPE I (Normal) tape.....20 to 17,000 Hz, ± 6 dB
TYPE II (HIGH/CrO_2) tape.....20 to 18,000 Hz, ± 6 dB
TYPE IV (Metal) tape.....20 to 19,000 Hz, ± 6 dB
Signal-to-Noise ratio
Dolby NR OFF .....More than 58 dB
Noise reduction effect
Dolby B type NR ON .....More than 10 dB (at 5 kHz)
Dolby C type NR ON .....More than 19 dB (at 5 kHz)

Harmonic distortion .....No more than 0.8% (–4 dB)
Input (Sensitivity)
LINE (INPUT).....112 mV (Input impedance 57 kΩ)
Output (Reference level)
LINE (OUTPUT) .....0.5 V (Output impedance 7.4 kΩ)

Miscellaneous

Power requirements
U.S., Canadian models .....AC 120 Volts, 60 Hz
Multi-voltage model .....AC 110 V/
120 V~127 V/220 V/240 V (switchable), 50/60 Hz
Power consumption
U.S. and Canadian models.....22 W
Multi-voltage model.....23 W
Dimensions .....420 (W) x 135.5 (H) x 364 (D) mm
16-9/16 (W) x 5-5/16 (H) x 14-5/16 (D) in
Weight (without package).....7.2 kg (15 lb 9 oz)

Accessories

Operating instructions 1
Connection cord with pin plugs 2
CD-DECK SYNCHRO control cord 1
System remote control cord
(U.S. and Canadian models only) 1
Cassette labels 1
Remote control unit (U.S. and Canadian models only) 1
Dry cell batteries “AAA” (IEC R03/UM-4)
(U.S. and Canadian models only) 2

Subfunctions

- DOLBY NR B/C types
- DOLBY HX PRO (DECK I only)
- DOLBY NR memory
- High-speed and normal-speed tape copying (DECK II → DECK I)
- Synchronized copy start
- Blank skip
- Music search over ±15 selections
- CD-DECK SYNCHRO recording capability (DECK I only)
- Tape counter/Time counter
- Tape Remaining Time indicators (6 seg; DECK I only)
- FL peak level meter (7 seg + ∞)
- Automatic space recording mute (DECK I only)
- One-touch recording pause (DECK I only)
- Automatic tape selector
- Automatic reverse
- TIMER RELAY Recording/TIMER Playback (DECK I only)
- System remote control compatible
- Relay recording/Relay playback (DECK I only)
- All rewind (at high speed, on DECK I only)
- Cassette random playback (DECK I only)
- Cassette scan playback (DECK I only)
- Powered eject (DECK I only)

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

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